



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,581	02/26/2002	Yu-Cheun Jou	020278	8984
23696	7590	08/01/2007		
QUALCOMM INCORPORATED 5775 MOREHOUSE DR. SAN DIEGO, CA 92121			EXAMINER PATEL, NIRAV B	
			ART UNIT 2135	PAPER NUMBER
			NOTIFICATION DATE 08/01/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

us-docketing@qualcomm.com  
kscanla@qualcomm.com  
nanm@qualcomm.com

# Office Action Summary

Application No.

10/085,581

Applicant(s)

JOU ET AL.

Examiner

Nirav Patel

Art Unit

2135

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2007 (Amendment).
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3-6,8-10,20,22-25 and 27-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-6, 8-10, 20, 22-25 and 27-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Applicant's amendment filed on May 08, 2007 has been entered. Claims 1, 3-6, 8, 9, 10, 20, 22-25, 27, 28 and 29 are pending. Claims 1, 6, 20 and 25 are amended by the applicant.

### Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 6, 8, 20, 22, 25, 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dent (US Patent No. 5,060,266) in view of Chan et al (US Pub No. 2002/0089935) and further in view of Johnson et al (US Patent No. 6,487,181).

As per claim 1, Dent discloses:

determining a scrambling sequence in accordance with time (i.e. time corresponding to a slot) [Fig. 4, 6, 7, time clock or block counter controls the operation of the time-of-day or block-count driven ciphering/deciphering device, including a synchronization mechanism, col. 12 lines 47-50, col. 11 lines 10-28]; determining the time in accordance with a subinterval of a system time interval (i.e. time slot) in which the information bits are to be transmitted [Fig. 6, 7, col. 59-62, col. 13 lines 2-4]; and determining the

Art Unit: 2135

scrambling sequence in accordance with the time (corresponding to a slot) [Fig. 4-7, col. 12 lines 60-68, col. 13 lines 1-4].

Dent teaches a channel in which the information bits (data block) are to be transmitted [col. 6 lines 62-67, col. 7 lines 1-11, 16-30].

Dent doesn't expressively mention metric of system time.

Chan teaches that metric of system time [paragraph 0047, lines 1-5]. Further, Chan teaches that the system time metric is a timing adjustment made for a given interval (i.e. metric in accordance with interval) [paragraph 0054].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teaching of Chan into the teaching of Dent to calculate metric using system time. The modification would be obvious because one of ordinary skill in the art would be motivated to generate metric for indicating the channel condition, which determines the optimal packet-size. An optimal RLP packet-size that equipped with CRC bits, so it prevents the RLP packet from getting rejected due to bit errors [Chan, paragraph 0007, lines 2-12].

Johnson teaches that a system time interval (i.e. slot) of a channel in which the information bits are to be transmitted and determining the metric in accordance with a subinterval (i.e. time slot) [col. 2 lines 38, 50-52, col. 8 lines 34-35].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Johnson with Dent and Chan, since one would have been motivated to determine the truncated time slot. The truncated time slot consume

less power than the transmission of a completely filled time slot, and result in an increased rechargeable life of the power source [Johnson, col. 9 lines 23-28].

As per claim 3, the rejection of claim 1 is incorporated and Dent discloses:

determining the metric (i.e. time corresponding to a slot) in accordance with a first subinterval of the system time interval [Fig. 7 → S1 or S2 or S3, time clock or block counter controls the operation of the time-of-day or block-count driven ciphering/deciphering device, including a synchronization mechanism, col. 12 lines 47-50, col. 13 lines 24-31].

As per claim 6, Dent discloses:

determining an unscrambling sequence in accordance with time (i.e. time corresponding to a slot) [Fig. 4, 6, 7, time clock or block counter controls the operation of the time-of-day or block-count driven ciphering/deciphering device, including a synchronization mechanism, col. 12 lines 47-50, col. 13 lines 15-40]; determining the time in accordance with a first subinterval of a system time interval (i.e. Fig. 7, time slot → S1 or S2 or S3 or S4) preceding a second subinterval of the system time interval by a pre-determined number of subintervals(i.e. Fig. 7, time slot → M5 or M21 or M37....etc.), wherein the second subinterval (i.e. message bits) comprises information bits to be unscrambled [Fig. 4-7, col. 12 lines 60-63, col. 13 lines 21-24]; and determining the unscrambling sequence in accordance with the time (corresponding to a slot) [Fig. 4-7, col. 13 lines 15-40].

Chan teaches that metric of system time [paragraph 0047, lines 1-5]. Further, Chan teaches that the system time metric is a timing adjustment made for a given interval (i.e. metric in accordance with interval) [paragraph 0054].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teaching of Chan into the teaching of Dent to calculate metric using system time. The modification would be obvious because one of ordinary skill in the art would be motivated to generate metric for indicating the channel condition, which determines the optimal packet-size. An optimal RLP packet-size that equipped with CRC bits, so it prevents the RLP packet from getting rejected due to bit errors [Chan, paragraph 0007, lines 2-12].

Johnson teaches that a system time interval (i.e. time slot or slot) of a channel in which the information bits are to be transmitted and determining the metric in accordance with a subinterval (i.e. time slot) [col. 2 line 38, 50-52, col. 8 lines 34-35].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Johnson with Dent and Chan, since one would have been motivated to determine the truncated time slot. The truncated time slot consume less power than the transmission of a completely filled time slot, and result in an increased rechargeable life of the power source [Johnson, col. 9 lines 23-28].

As per claim 8, the rejection of claim 6 is incorporated and Dent discloses:

determining the first subinterval of the system time interval preceding the second subinterval of the system time interval by one subinterval [Fig.7, S3 – M37, time clock or

block counter controls the operation of the time-of-day or block-count driven ciphering/deciphering device, including a synchronization mechanism, col. 12 lines 47-50].

As per claim 20, it encompasses limitations that are similar to limitations of claim 1. Thus, it is rejected with the same rationale applied against claim 1 above.

As per claim 22, the rejection of claim 1 is incorporated and it encompasses limitations that are similar to limitations of claim 3. Thus, it is rejected with the same rationale applied against claim 3 above.

As per claim 25, it encompasses limitations that are similar to limitations of claim 6. Thus, it is rejected with the same rationale applied against claim 6 above.

As per claim 27, the rejection of claim 25 is incorporated and it encompasses limitations that are similar to limitations of claim 8. Thus, it is rejected with the same rationale applied against claim 8 above.

3. Claims 4, 9, 10 and 23, 28, 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dent (US Patent No. 5,060,266) in view of Chan et al (US Pub No. 2002/0089935) and further in view of Johnson et al (US Patent No. 6,487,181) and in view of Fisher et al (US Patent No. 5,321,754).

As per claim 4, the rejection of claim 1 is incorporated and Fisher discloses:

performing mapping of the metric on the scrambling sequence [Fig. 1a, col. 4 lines 3-8].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Fisher with Dent, Chan and Johnson, since one would have been motivated to optimize the performance of the transmitter/receiver [Fisher, col.1 line 38].

As per claim 9, the rejection of claim 6 is incorporated and Fisher discloses:

performing mapping of the metric on the unscrambling sequence [Fig. 1b, col. 6 lines 45-50, 51-68, col. 7 lines 1-23].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Fisher with Dent, Chan and Johnson, since one would have been motivated to optimize the performance of the transmitter/receiver [Fisher, col.1 line 38].

As per claim 10, the rejection of claim 6 is incorporated and Fisher discloses:

performing an exclusive-OR of the information bits with unscrambling sequence [Fig. 3, col. 7 lines 13-15].



Art Unit: 2135

As per claim 23, the rejection of claim 20 is incorporated and it encompasses limitations that are similar to limitations of claim 4. Thus, it is rejected with the same rationale applied against claim 4 above.

As per claim 28, the rejection of claim 25 is incorporated and it encompasses limitations that are similar to limitations of claim 9. Thus, it is rejected with the same rationale applied against claim 9 above.

As per claim 29, the rejection of claim 25 is incorporated and it encompasses limitations that are similar to limitations of claim 10. Thus, it is rejected with the same rationale applied against claim 10 above.

4. Claims 5 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dent (US Patent No. 5,060,266) in view of Chan et al (US Pub No. 2002/0089935) and further in view of Johnson et al (US Patent No. 6,487,181) and in view of Bodin (US Patent No. 6,973,189).

As per claim 5, the rejection of claim 1 is incorporated and Dent teaches performing an adding (using the modulo-2 adder Fig. 4, 203) of the information bits with the scrambling sequence [Fig. 4].

Bodin discloses:

performing an exclusive-OR of the information bits with the scrambling sequence [Fig. 2, col. 3 lines 41-46].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Bodin with Dent, Chan and Johnson, since one would have been motivated to provide the data transmission without needing to make substantial changes to the signaling protocol and/or system equipment [Bodin, col. 2 lines 14-16].

As per claim 24, the rejection of claim 20 is incorporated and it encompasses limitations that are similar to limitations of claim 5. Thus, it is rejected with the same rationale applied against claim 5 above.

### **Response to Amendment**

5. Applicant has amended claims 1, 6, 20 and 25 which necessitated new ground of rejection. See rejection above.

Applicant's arguments filed May 08, 2007 have been fully considered but they are not persuasive.

Applicant argues that Dent reference does not teach or suggest Applicants' claimed element of "determining a scrambling sequence in accordance with a metric of system time, wherein said determining a scrambling sequence in accordance with a

Art Unit: 2135

metric of system time, wherein said determining a scrambling sequence includes determining the metric based on a subinterval of a system time interval of a channel in which the information bits are to be transmitted”.

Regarding to the applicant's arguments, Examiner maintains that Dent teaches a scrambling sequence in according with the time (i.e. time corresponding to a slot) as shown in Fig. 4, 6, 7. As shown in Fig. 4, a time clock or block counter generates a count, which is utilized to encrypt and decrypt the data in a communication system. Further, Dent teaches a channel in which the information bits (data block) are to be transmitted [col. 6 lines 62-67, col. 7 lines 1-11, 16-30]. Chan's invention provides methods and apparatuses for varying the size of a packet based on channel condition estimation. A channel condition metric is generated to indicate a channel condition. A channel condition estimation metric calculated using one or more metrics e.g. system time. Johnson's invention relates to communication system and to transmitting and receiving information in a time slot of a time division multiplexed communication system. Johnson teaches a system time interval of a channel in which the information bits are to be transmitted and determining the metric in accordance with a subinterval (i.e. time slot) [col. 2 lines 38, 50-52, col. 8 lines 34-35]. Therefore, the combination of Dent, Chan and Johnson teaches the claim limitation and the combination is sufficient.

### Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Menon et al (US 6751205) --- Signaling and protocol for communication system with wireless trunk

Fauconnier et al (US 6909887) --- Method of controlling a channel between a radio terminal and a cellular radiocommunication infrastructure, and access network implementing such a method

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

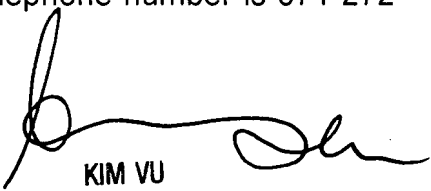
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 2135

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nirav Patel whose telephone number is 571-272-5936. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on 571-272-3859. The fax and phone numbers for the organization where this application or proceeding is assigned is 571-273-8300. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2100.

*NBP*

7/16/07

  
KIM VU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100